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ABSTRACT

The study sought to (1) furnish data to be used in further language-error analyses and studies of causes of errors in language acquisition, (2) provide specific data for a basis in constructing pedagogical materials and proficiency tests to be used in teaching English to Mexican American children, and (3) determine whether bilingual or monolingual schooling affects the number and/or the patterning of errors. The sample consisted of 61 Mexican American children attending a monolingual school and 59 Mexican American children attending a bilingual school. The children were shown a silent movie and then asked to tell the story. Their answers were recorded on tape and transcribed. The deviations from standard English were described and categorized into errors in morphology, syntax, and vocabulary and counted as to their relative frequency in order to determine differences due to such independent variables as grade, sex, and type of schooling. Comparisons of frequency were based on comparisons made as to correct usage percentage within the 2 most frequent error categories and overall comparisons of all error frequency made as to number of errors per number of words. Major findings were (1) that deviations apparently were the result of the expected Spanish interference, the improper application of standard English rules, and the influence of nonstandard English dialects and (2) that children in the bilingual school did not differ significantly from those in the monolingual school with respect to frequency of deviations from standard English. (NQ)

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Research and Development Memorandum No. 103

AN ERROR ANALYSIS OF THE SPOKEN ENGLISH OF MEXICAN-AMERICAN PUPILS IN A BILINGUAL SCHOOL AND A MONOLINGUAL SCHOOL

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Introductory Statement

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This memorandum examines the frequency and types of errors (deviations from standard English) that occur in speech samples elicited from Mexican-American children in two low-income area schools, one bilingual and one monolingual. The purposes of the report are to detect possible differences in the proficiency in English produced by the different school environments and to furnish basic information for the construction of English proficiency tests for Mexican-American pupils.

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Abstract

Speech samples were obtained from Mexican-American children who attended a monolingual school (N = 67) and Mexican-American children who attended a bilingual school (N = 59) in the same school district. The children were asked to tell the story of a silent movie they had watched immediately before being interviewed. Their answers were recorded on tape and transcribed. Deviations from standard English were counted and categorized. The main findings of the study were (a) that the causes of deviations from standard English appeared to include the expected interference of Spanish as well as the improper application of standard English rules and the influence of nonstandard English dialects, and (b) that children in the bilingual school did not differ significantly from those in the monolingual school with respect to frequency of deviations from standard English.

AN ERROR ANALYSIS OF THE SPOKEN ENGLISH OF MEXICAN-AMERICAN PUPILS IN A BILINGUAL SCHOOL AND A MONOLINGUAL SCHOOL

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This study was undertaken for three distinct but related purposes. Among many investigators there is at present a general interest in analyzing language errors made by pupils in the process of second-language acquisition (e.g., see George, 1972; Richards, 1971a). In part this recent interest is the result of attempts to prove or disprove (Whitman & Jackson, 1972; Richards, 1971b) the hypotheses that interference from the mother tongue is the major source of error in foreign-language learning and that errors are a valuable source of information about the learning process (see Tucker & d'Anglejan, 1971, pp. 168ff). In part, too, it is the result of a reevaluation of the role of errors in language acquisition--a reevaluation that interprets errors as a step in the learning process rather than an evil to be avoided at all costs (see, e.g., Corder, 1967; Wardhaugh, 1970). The present study's first purpose was to furnish data that may prove useful in further language-error analyses and studies of the causes of errors in language acquisition by presenting the errors made by Mexican-American children in the process of learning English.

There is comparatively little information available concerning the errors made by Mexican-American children during the acquisition of English. Very few studies have reported or analyzed these errors (Lance, 1969; Gonzalez, 1969), and some of the pedagogical materials dealing with teaching English to Mexican-Americans (e.g., Bartley & Politzer, 1972) are based only on informal observation and assumptions. This study's second purpose was to provide specific data that can serve as a basis for constructing both pedagogical materials and proficiency tests to be used in teaching English to Mexican-American children.

Some of the Mexican-American children on whose speech this study was based came from a bilingual school environment, whereas others came from

a monolingual (English) school environment. The third purpose of this study was to determine whether bilingual or monolingual schooling affects the number and/or the patterning of errors.[1]

Design

Subjects

The subjects whose language was analyzed in this study came from two elementary schools, Garfield and Hoover. The children from Garfield were (and had been) in a bilingual program; those from Hoover were in a monolingual (English) program. The general comparability of the Hoover and Garfield groups with respect to various factors (place of origin, general socioeconomic background) had been established by the internal evaluator of the bilingual program, who used the two schools for comparison in measuring the bilingual program's effectiveness by various criteria (see Cohen, 1971).

The subjects used in this study were distributed as follows:

	Bilingual School			Monolingual School		
	Male	Female	Total	Male	Female	Total
Kindergarten	3	10	13	9	8	17
First year	10	4	14	9	7	16
Second year	10	7	17	8	7	15
Third year*	10	5	15	9	4	13
			59			61

*Note that "third year" rather than "third grade" is used as a basis of classification: children who had been in school for three years past kindergarten but had been retained in the second grade were included in this category.

[1] Arnulfo Ramirez is studying the language sample used in this investigation to determine whether bilingual or monolingual schooling affected the number or the complexity of the constructions used by the subjects.

Procedures

The children were shown an eight-minute animated cartoon of Aesop's fable "The Ant and the Dove." The film was shown with the sound turned off, so that the narrator's language could not influence the responses elicited from the children. The children viewed the film in groups of four at a time. Immediately after seeing the film, each child was privately asked to tell the story and to answer questions related to it (see Appendix A). The children's oral responses were recorded on tape.

The children's responses were then transcribed. The transcriptions were made into regular English orthography rather than phonetic script because phonetic analysis was not one of the aims of this investigation. Moreover, the recordings did not have sufficient fidelity to be used as a basis for phonetic/phonological analysis.

Methods of Analysis

The purposes of this study required two complementary methods of analysis: (a) a description and categorization of the errors, and (b) a statistical presentation of their relative frequency in order to determine differences due to independent variables such as grade, sex, and type of schooling (bilingual vs. monolingual).

The errors were categorized as an aid in presenting data rather than to create a basis for extensive speculation concerning the sources of the errors. For this reason they were categorized along fairly traditional lines into errors in morphology, syntax, and vocabulary. (Owing to the insufficient fidelity of the recordings, no attempt was made to include phonology in the analysis.) The three main categories were further subdivided according to different parts of speech or parts of the sentence. Except in the case of vocabulary errors, therefore, the categorization used was not based on any assumptions about the causes of errors but was purely descriptive. Vocabulary errors were divided into errors presumably caused by confusion within English, confusion of Spanish and English, and so on. The children making the errors were categorized according to type of program (monolingual-M, or bilingual-B) and year in school (K, 1, 2, or 3).

Statistical comparisons of frequency were based on two methods: (a) within the two most frequent categories of errors (incorrect usage of simple past tense, incorrect usage of prepositions), comparisons were made in terms of percentage of correct usage; (b) overall comparisons of the frequency of all errors were made in terms of number of errors per number of words.

Results

The errors were categorized as follows.

Morphology

1. Indefinite article incorrect.

A used for an before vowels: A ant (B-2). This was a fairly frequent error (12 instances, see Appendix B).

The reverse phenomenon, an for a, occurred once: an little ant (B-2).

2. Possessive case incorrect.

The man feet (for the man's feet, B-1), the man leg (M-K), the snail part (M-1). In one instance the possessive was formed with the wrong noun: Mother's Linda (for Linda's mother) came (M-K).

3. Third-person singular verb incorrect.

The failure to attach the necessary -s was a fairly frequent error (26 instances, see Appendix B): The bird help the man (B-K), He go walking (B-K), He get out of the water (M-K), etc.

The reverse phenomenon--the wrong attachment of -s--also occurred: The apple fall downs (B-1), He gots a lot of rabbits (M-2).

4. Simple past tense incorrect.

This turned out to be the most frequent of all the errors (see the section "Some Statistical Comparisons" below), undoubtedly because the task of telling the story inevitably involved the use of a large number of verbs in the past tense. Both regular and irregular past tenses were affected in large numbers.

(a) Regular past tense. Omission of -ed: The bird he save him (B-1), He want to kill him (B-1), etc. A hunter came and watch (B-2), etc.

The reverse phenomenon or hypercorrection of adding ed to a past already formed with ed occurred once: He calleded /kɔldəd/ (B-3).

(b) Irregular past tense. Both the "regularization" by adding -ed and the substitution of the simple non-past ("present") occurred with great frequency: He fall in the water (B-K), He came and bring it in the house (B-1), He sting him (B-1), He throwed him (B-2), He hurted him (M-3), He putted the cookie there (M-3).

In two instances a past participle appears to have been substituted for a past: I been near to him (M-2), He gone (for he went) home (M-K). (These two errors, of course, could also be listed as errors in syntax or vocabulary.)

5. Past participle incorrect.

Omission of -ed: He was call (B-1), He's finish (B-1).

6. Comparative adjective/adverb incorrect.

There is one example of the use of more + er morpheme to form the comparative: He got up more higher (M-1).

Syntax

1. Noun phrase.

(a) Determiners. The omission of the article (definite or indefinite) was one of the more frequent errors (24 instances in all, see Appendix B): He no go in hole (B-K), He bring it in house (B-1), Man wanted to shoot (M-K), Putting leaf on the water (B-2), The ant came back to grass (M-3).

The definite article was often substituted for the possessive pronoun: He fall down on the head (B-2), The ant pinched him the leg (B-2), The apple fall onto the head (B-1), He go on the feet (M-K).

There was one instance of the use of possessive with the article: He put it in the his room (B-1); and one instance of the use of the wrong possessive: The little boy hurt its (for his) leg (M-K).

(b) Nominalization. There were several instances of nominalizations in which the simple verb rather than the ing form was used: by to cook it (for cooking it) (M-1), instead of kill birds (M-2).

In some instances the preposition by was omitted: The dove helped him putting (instead of by putting) leaf on the water (M-2), You can save my life flying (M-1).

(c) Number confusion. Occasionally singulars were used for plurals and plurals for singulars. He stab him in the feet (for foot) (B-2), He got some leaf (for leaves). This could also be an inappropriate use of some for a (M-2). The interpretation of stuff as a plural evidently accounts for He was getting these stuff (B-2).

(d) Use of pronouns. A very frequent error (43 instances, see Appendix B) was the omission of the subject pronoun: (He) pinch the man (B-K), (I) liked him (B-K), then (he) flew away (B-2), (He) picked an orange (M-K), (It) stays in the water (M-K). The omission of the pronoun appears to have been particularly frequent in response to questions in which the pronoun was used; e.g., What did he do then? was answered by picked an orange (M-K).

The "dummy" pronoun it of the it is construction was omitted several times: is nice to help people (M-3).

There were also several instances of the omission of object pronouns: I don't know (it) in English (B-1), I say (it) like that (B-K; possibly as result of confusion of speak/say), by getting a leaf and throwing (it) down the water (M-3), I like (it) when the ant helps the bird (M-1).

Though the subject pronoun was omitted in many cases, it was also added quite frequently (24 instances, see Appendix B). In other words, the subject pronoun seems to have been treated as if it were a redundant element to be added or omitted on an arbitrary basis: My brother he go to Mexico (B-K), The ant it help (B-K), The bird he save him (B-1), He the robin threw a leaf down (B-3), The man he came (M-3). This status of the subject pronoun as a redundant element evidently accounts for the rather unusual use of a pronoun in anticipation of the

noun in the same sentence: He (referring to bird!) looked down because the bird lived next to the river (M-3).

The confusion of pronouns (by number as well as gender) occurred in several instances: e.g., So he can eat it (referring to apples) (B-1), He put it (referring to teeth) on the man leg (M-K), He touch his feet because it hurted it (M-2), The apple he fell on his head (B-3), By pinching the man so they (for he) won't kill the bird (B-3), I help my little sister when he sick (B-2), He went (for it became) morning (B-3).

There was one instance of the use of me as a subject: Me forget it (B-2).

(e) Use of prepositions. The misuse or omission of prepositions was the second most frequent of all the errors found (see the section "Some Statistical Comparisons" below). All non-English uses of prepositions are discussed here, though some could be classified as affecting verb usage rather than the preposition and noun phrase construction: e.g., The ant was looking (at) somebody (M-K) could be said to represent the incorrect use of a verb (to look at) rather than the omission of the preposition preceding a noun phrase.

Other typical instances of the omission of prepositions were: He came (to) the water (B-K), He went (to) his place (M-K), He live (in) his hole (M-1), He got (into) the hole (M-1), He pinched him (with) some pliers (M-1), He put it down (on) the water (M-1), He look (for) the cookies (M-3), (In) the beginning the ant came (B-3).

The confusion of prepositions was particularly frequent when an indication of location or direction was involved: e.g., He fell down from (for on, into?) the water (B-K), He walking to (for up to?) the man (B-1), He throw it to (for into) the water (B-1), The man was hurting in (for on) his leg (B-2), The ant got into (for on) the leaf (M-K), He fell on (for in) the water (M-K), He got up into (for on) his leg (M-2), He go back to under (for in?) the hole (M-1).

Other instances of the confusion of prepositions were: e.g., Outside at (for of) school (B-2), The ant hissed on (for at) the bird (M-2), He got on (for in) the hole (M-1), He looked to (for at) the man (M-1).

2. Verb phrase.

(a) Omission of verb. In some instances the verb was omitted, simply because the child did not know the verb denoting the action: He (fell?) in the water (B-1), He (went) where his house was (B-2), He went to (shoot?) a bird (B-2).

There were also a few instances of omission of the verb to be in which ignorance of the verb could not have been the cause: He (is) in the water (B-1), When he (is) sick (B-2), He (was) asleep (M-3). (These omissions of to be are reminiscent of a similar phenomenon in Black English [cf. Bartley & Politzer, 1972, pp. 49ff.]. However, the Mexican-American children in this study had probably had little if any contact with speakers of Black English.)

(b) Use of progressive tense. There were three distinct errors connected with the use of the progressive:

The omission of the form of be: e.g., He going (B-K), Then he slipping off (B-3), He going to sleep (M-K), When the man shooting the dove (M-3), The man came and shooting apples (M-3).

The replacement of the -ing form by the simple form of the verb: e.g., Was walk he (B-1), The bird was shake his head (B-2), The man was shoot the bird (M-K), They were all play together (M-2).

The substitution of the progressive form when it would normally not be expected in English--especially its use instead of the simple past: e.g., Then the man shooting (shot?) with a gun (B-2), After he was shooting the apples, he went back (B-2), Then he pinching (pinched?) the man's feet (B-1), Then the leaf was going (went) floating (B-2), The man came and shooting (and shot at) apples (M-3).

Some instances of the third type of error can probably be explained by the fact that the child recalled the action of the movie and was describing it vividly as though it was taking place in the present.

(c) Agreement of subject and verb. Disagreement of subject and verb person, number, or tense occurred in a few instances,

Number: The apples was coming down (M-1), The fishes that's in the water (M-1), The man were trying to shoot (B-2), Where all the cookies is (B-2).

Person: You be friends (M-1).

Tense: I didn't know what it is (B-2).

3. Verb-and-verb construction.

This category includes all errors that occurred in the process of producing constructions that can be described as the embedding of a noun-and-verb construction in another noun-and-verb construction: e.g., I go and I play result in I go to play. Two main categories of this type of construction can be differentiated: those in which the two noun-and-verb constructions have identical subjects and those in which they have different subjects.

One of the frequent errors (19 instances, see Appendix B) in both the identical- and the different-subject construction was the omission of to before the second verb: e.g., I go play (B-K), He wanted kill him (B-1), The man wanted kill him (M-K).

An interesting error that occurred several times was the attachment of the past marker to the dependent verb: He went outside to looked for more (B-3), The bird came got (for to get) a leaf (B-2), He was going to fell (M-2). This phenomenon is similar to one reported for Black English (see Bartley & Politzer, 1972, p. 73), though there is no reason to assume any direct influence of Black English.

Some examples for the omission of to in the verb-and-verb construction with different subjects are: He got the quarter go around (M-1); I see (for I saw) a bird got the leaf (M-K).

4. Word order.

A fairly characteristic error was the anticipation of the object (usually with the repetition of the object as pronoun; see discussion of pronouns above): The man (obj.) he pinched him (B-3), The bird (obj.) he was gonna shoot it (B-3), Then the bird (obj.) he found (B-3), A leaf he got (M-3).

That the mandatory subject-verb-object word order of English is a problem for some of the children became obvious from the comment of a third grader who overtly corrected his own word-order mistake: The ant helped the bird--I mean: The bird helped the ant (B-3).

Some examples of other errors involving word order are the following: The little ant with a leaf he came (B-3), Because did it really hurt (M-K), Then he it broke (M-2), Legs then are fine (B-3), The bird was two time there (M-1).

Instances in which adjectival modifiers were placed after the noun were rare: A bird a little pink came (B-3), He put it inside his house a little round (K-1).

5. Some transformations.

This category includes errors connected with five types of constructions: the passive, the negative, questions, there constructions, and subordinate clauses.

(a) Passive transformation. Few instances of the use of the passive occurred. Got was used for the formation of a passive in one instance: The bird got saved (for was saved) (M-3).

(b) Negative transformation. Several types of errors occurred in connection with negative constructions. One was the formation of the negative with no or not without the auxiliary do: I know no more (B-K), He no go in hole (B-K), He not catch the bird (B-K), He not play anymore (M-1), No help him (M-K), No guess? (M-1).

The above construction seems to have been restricted to the lower grades (K, and 1). In the upper grades the more typical nonstandard negative constructions were the use of ain't and the so-called multiple negation: It ain't good to be beating up people (B-2), It ain't nice to kill birds (M-2), But I ain't that way (M-2), They won't have no fun (M-2), They won't be friends no more (B-2). Some other interesting negative constructions were: He didn't do something (B-1), That's who (for why?) (M-2), They should kill not birds (for should not kill) (M-2), and they didn't fell (for fall) (M-2; compare with was going to fell, etc., above).

(c) Question transformation. There were very few questions in the children's responses. In two instances the auxiliary was not used in the formation of a question: How the story helps? (B-1), No guess? (for can't you or don't you guess?) (M-1).

(d) There transformation. Only a few instances occurred: In one is was used instead of are: There is these hole (B-1). In one instance there was omitted: Is one bird (B-1). And in another it was was used instead of there were: It was round things (M-1).

(e) Subordinate clause transformation. In general comparatively few subordinate clauses were used and those that were introduced by because, when, and the like did not present any particular problems as such. Several of the children, however, attempted to form clauses of purpose--sometimes in response to the question why?--and came up with constructions other than the standard English so that he would, so that he could: So he don't kill the bird (B-K), So he be safe (B-K), So not catch the bird (for so the man would not catch the bird) (B-K), So he don't kill the little bird (for so he wouldn't kill) (B-2), For he wouldn't drown (for so that he wouldn't) (B-2), He got something for don't kill the bird (for so that the bird wouldn't be killed) (M-K), For the ant could get out (for so that the ant could get out) (M-1).

Vocabulary

Three broad categories of vocabulary errors can be distinguished: some errors are due to confusion brought about by the signifiers (the sounds) of words; some can be described as the inappropriate selection of vocabulary for a grammatical construction; a large number are due to some sort of meaning confusion in which a word resembling the required word in meaning is substituted for it. The exact borderlines between these categories--especially between the second and third categories--is not always easy to draw.

1. Errors due to the signifier.

(a) Intrusion of Spanish. Outright intrusions of Spanish into English discourse were rare. One child said: He no lo mata (B-1). Another evidently coined a new English word, probably on the basis of Spanish: He (the bird) vel vay (for flew away, vel from Spanish volar?).

(b) Errors due to phonetic similarities between Spanish and English. One child created the word parablem (for problem) (B-1).

Another used have or habe [hæb] in the meaning speak (Spanish hablar= English have): I have Spanish (B-K). In another instance gain was used in the sense of win (Spanish ganar=English gain): Let's keep gaining all the marbles! (M-1).

(c) Phonetic similarity within English. He was trying to kid (for kill) him (M-K), He flew (for threw) a leaf down (M-1). Both of these instances apparently involved a mishearing and mispronunciation of an English phonemic contrast. A misinterpretation of an English word is involved in batfly (for butterfly) (M-2).

A very frequent error was the use of cause for because (perhaps simply as the result of confusion between the two words, or perhaps owing to the influence of the Spanish causa, or perhaps simply because of a general tendency among children to drop the semantically puzzling be morpheme).

(d) New creations. Occasionally a child created a new word for reasons that are not always too clear. The word treechers (for tweezers?) (M-2) is one example. Another is drownding: He was drownding (probably for drowning) (M-3). At times the meaning of the new creation remains opaque: we shall probably never know what was in the mind of the first grader who answered the question What happened next? with Oh, it was like a boon/bun/ (B-K) (balloon doesn't seem to fit).

2. Selection of inappropriate word.

This category includes errors that can be described as the selection of inappropriate vocabulary in a grammatically correct construction.

(a) Inappropriate words but correct word class. Some examples are: So he don't get (for become) dead (B-K), He fixed it (for put it?) together (B-1), It got (for became) morning (B-2), They won't help together (for each other)(M-2), He went morning (for it became) morning (B-3).

A rather frequent error was the use of back in the sense of in return or in turn or again: He found something back (perhaps on the analogy of give back) (B-2), If you help, they will help you back (B-2), He built it back (B-3), He fixed it back together (M-1).

(b) Inappropriate words and incorrect word class. Some examples are: The ant has an open (open used as a noun, for hole) (B-1), He go in this going (going used as a noun, for way) (B-1), We can be friends a lot (B-3), The rocks were kind of circle--He found the circle thing (circle used as an adjective meaning round) (M-1).

3. Semantic confusion.

(a) Semantic confusion clearly due to Spanish influence. The most obvious example in this category was the use of was for went (Spanish fué = English was and English went): Then the little ant was (for went) home (M-2), The little ant was (for went) to help (B-2). Instances of confusion between say and speak were probably also due to Spanish influence (English say, tell, speak = Spanish hablar, decir): e.g., Say like that (for I say it like that or I speak like that) (B-K).

(b) General semantic confusion. A large number of instances of semantic confusion, however, cannot directly be traced to Spanish influence. In some instances the children seemed to know some but not all of the semantic characteristics or features of certain words and thus used them inappropriately (see category 2 "Selection of inappropriate word").

Note, for instance, how movement and motion were expressed by inappropriate words in the following instances: The apple go (for fell) on his head (B-1), The circle went (for fell) in the hole (B-1), Something got (for fell) on his head (B-1), The apple were shooting (for falling?) on him (B-2), He went up (for got up, climbed up) on the leaf (B-2), The little snail came (for got, climbed up) on him (B-3), It (the ant) came on it (for got up on it) (M-K), The apple got (for fell) on his head (M-1), The man came (for went) home (M-1), Then he went (for fell) into the water (M-3).

In some instances ignorance of the word expressing the required concept seems to have prompted the substitution of another word that has some similarity to the right one: The hunter was throwing bullets (B-2), He bite (for stuck) the man with his pin (M-1), He kill the man's leg (for He pinched the man's leg, evidently on the basis that both pinching and killing have negative results for the receiver of the action) (M-2).

However, another child solved the problem created by ignorance of the required word by using the colorless verb do: He did it in the hunter's leg (B-3).

Some Statistical Comparisons

A total of 1,055 errors were counted in the responses of the children in this study. Of these, 525 were made by children from the bilingual school, and 530 by children from the monolingual school. The two most frequent categories of errors were (a) the wrong use of the simple past tense (either the morphologically wrong form or the substitution of a perfective progressive or a perfect) and (b) the wrong use or omission of prepositions before noun phrases. The first of these categories accounted for 541 errors, or slightly over 51 percent of the total errors, and the second category accounted for 103, or slightly under 10 percent of the total.

In order to make comparisons by grade, sex, and school, correct uses of the simple past tense and of prepositions before noun phrases were counted and presented as percentages of total uses.

Table 1 and Figure 1 show the percentage of correct uses of the simple past tense. In interpreting the statistics one must keep in mind that differences in percentages of correct uses can be influenced by comparatively few individuals. In other words, "significant" differences in percentages cannot necessarily be interpreted to imply significant differences due to the independent variables (school, sex, grade). Still, the tables and graphs make it quite clear that (a) there was a sharp increase in correct use from grade to grade; (b) that with the possible exception of the better performance of first-grade females in the monolingual school, there was little difference in performance between male and female pupils; and (c) that the pattern of growth and the third-grade performance was the same for both schools.

The correct and incorrect uses of the simple past tense were also examined from the strictly morphological point of view in order to determine whether irregular past tenses presented more of a problem than those formed regularly by the addition of -ed /-t, -d, əd/. In this particular

TABLE 1

Correct and Incorrect Uses of Simple Past Tense, by Type of School and by Sex

Grade		Bilingual School			Monolingual School		
		Correct	Incorrect	Percent Correct	Correct	Incorrect	Percent Correct
K	Male	-	-	-	31	33	48%
	Female	12	25	33%	13	33	28%
	Total	12	25	33%	44	66	44%
1	Male	34	57	37%	61	98	35%
	Female	22	16	58%	62	16	79%
	Total	56	73	43%	123	114	52%
2	Male	91	38	71%	72	31	70%
	Female	101	46	67%	79	37	68%
	Total	192	84	69%	151	68	69%
3	Male	157	29	84%	134	36	79%
	Female	75	35	68%	74	11	87%
	Total	232	64	78%	208	47	82%

Grade	Male			Female		
	Correct	Incorrect	Percent Correct	Correct	Incorrect	Percent Correct
K	31	33	48%	25	58	30%
1	95	155	38%	84	32	73%
2	163	69	70%	180	83	68%
3	291	65	82%	148	46	76%

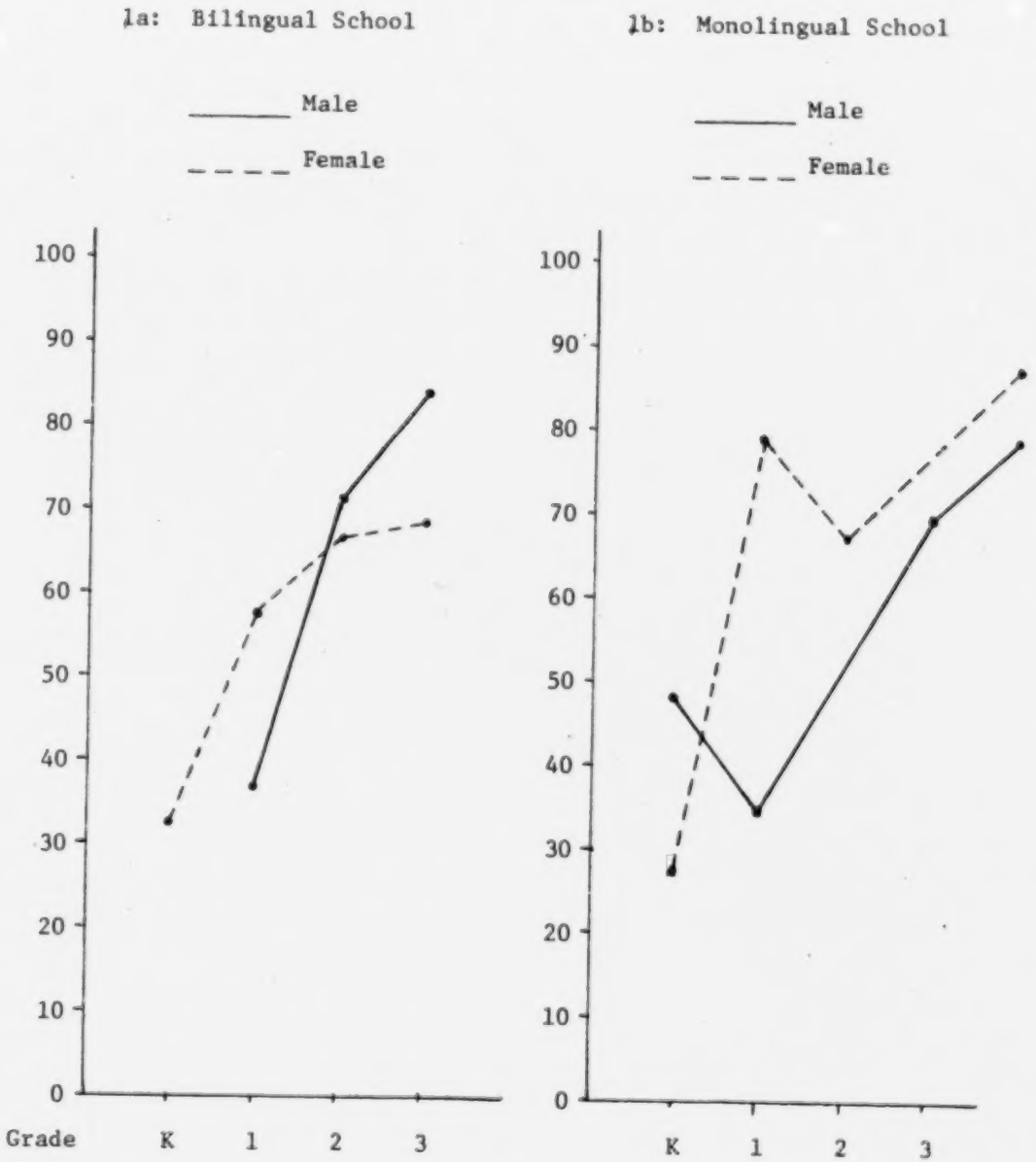


Fig. 1. Percentage of correct uses of simple past tense.

1c: Bilingual School_____

Monolingual School _ _ _ _

1d: Males_____

Females_ _ _ _ _

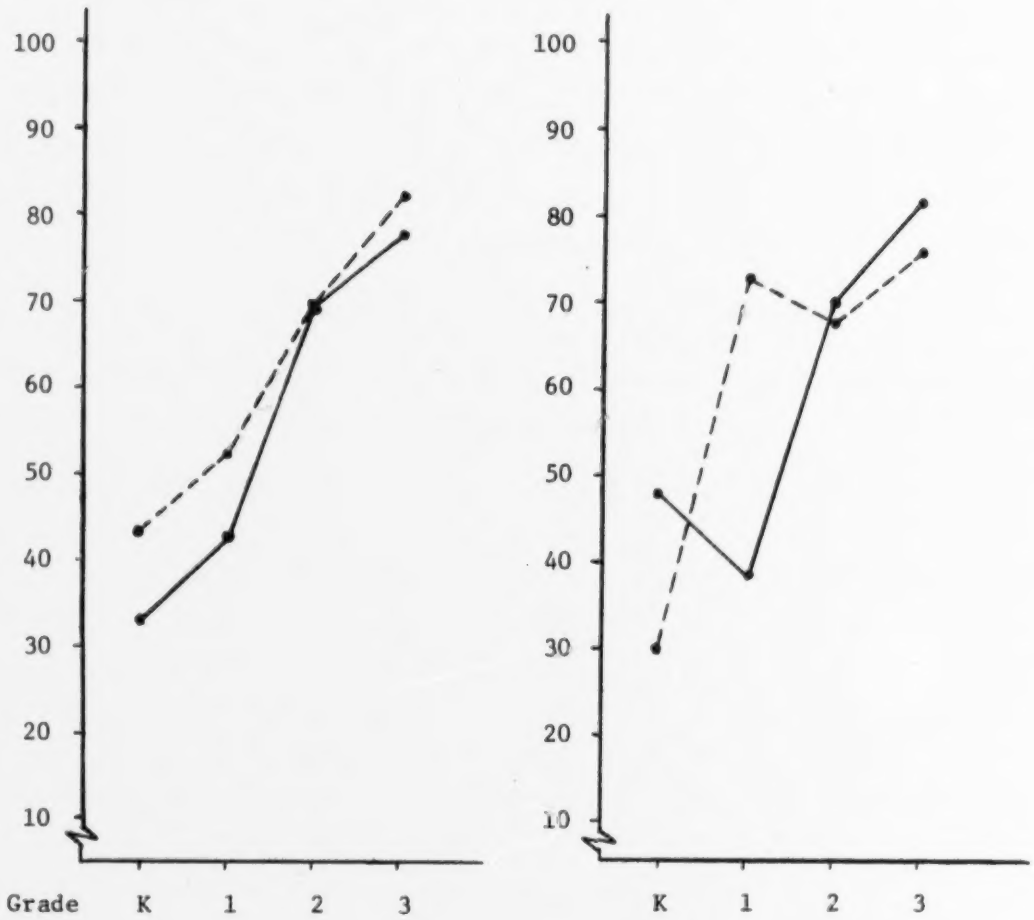


Fig. 1. cont'd.

count errors not due to morphological factors (e.g., the substitution of the past progressive for the simple past) were not considered. For this reason the total number of errors in Table 2 is not identical with the total number in Table 1. Table 2 and Figure 2 clearly indicate that in both schools and at all levels the irregular past tenses were used correctly more often than the regular ones. Evidently one of the basic causes of the errors relating to the morphology of the past tense is the phonological problem of interpreting and pronouncing the final consonant clusters created by the addition of the -ed /-t, -d, əd/.

TABLE 2

Correct and Incorrect Uses of Regular and Irregular Past Tenses, by Type of School

Bilingual School

	Regular Past			Irregular Past		
Grade	Correct	Incorrect	Percent Correct	Correct	Incorrect	Percent Correct
K	1	6	14%	11	13	46%
1	10	19	34%	46	47	49%
2	46	44	51%	146	31	82%
3	54	22	71%	178	31	85%

Monolingual School

	Regular Past			Irregular Past		
Grade	Correct	Incorrect	Percent Correct	Correct	Incorrect	Percent Correct
K	6	20	24%	38	33	54%
1	17	19	47%	106	63	63%
2	47	25	63%	104	31	77%
3	47	14	77%	161	23	88%

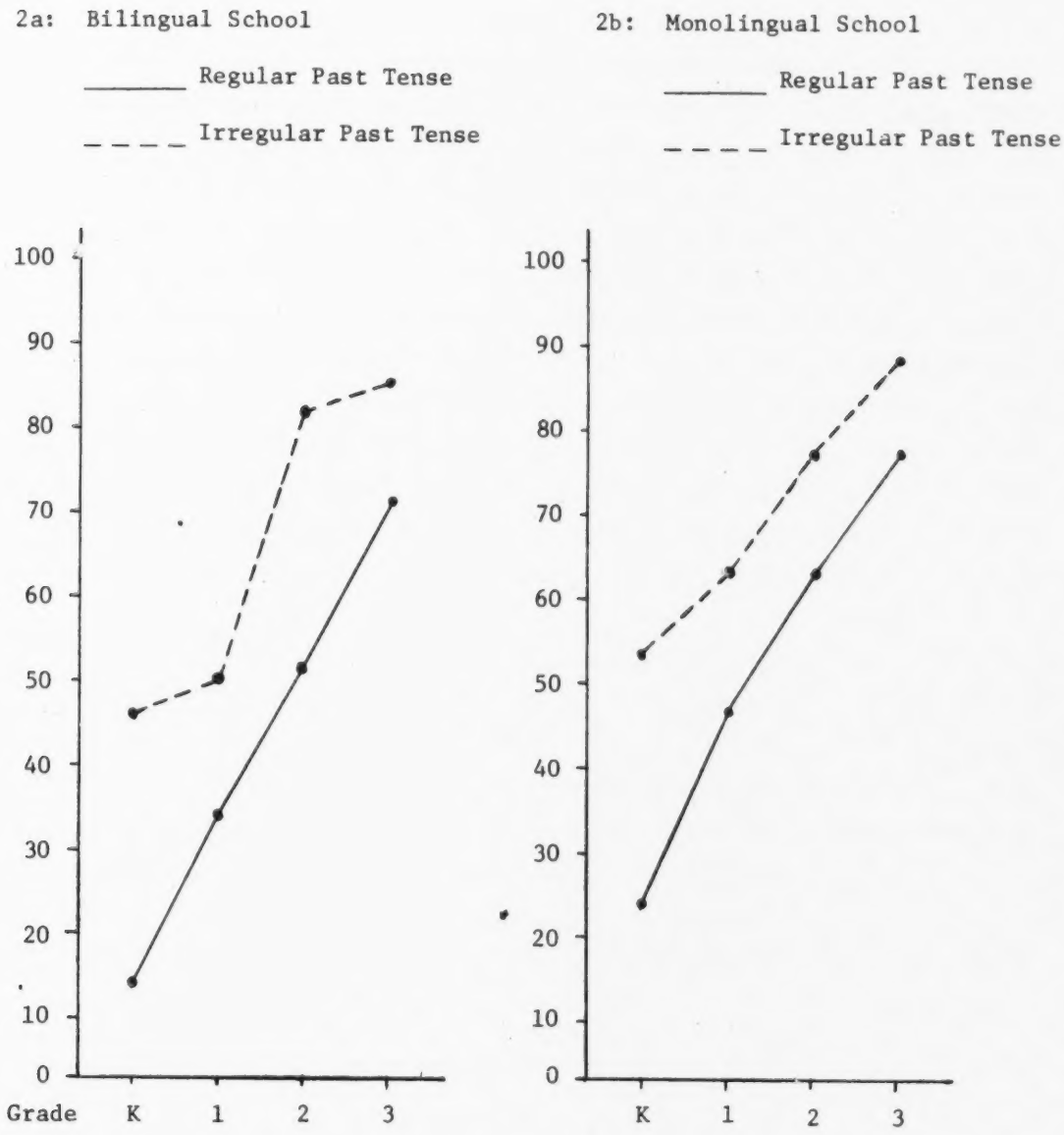


Fig. 2. Percentage of correct uses of regular and irregular past tenses.

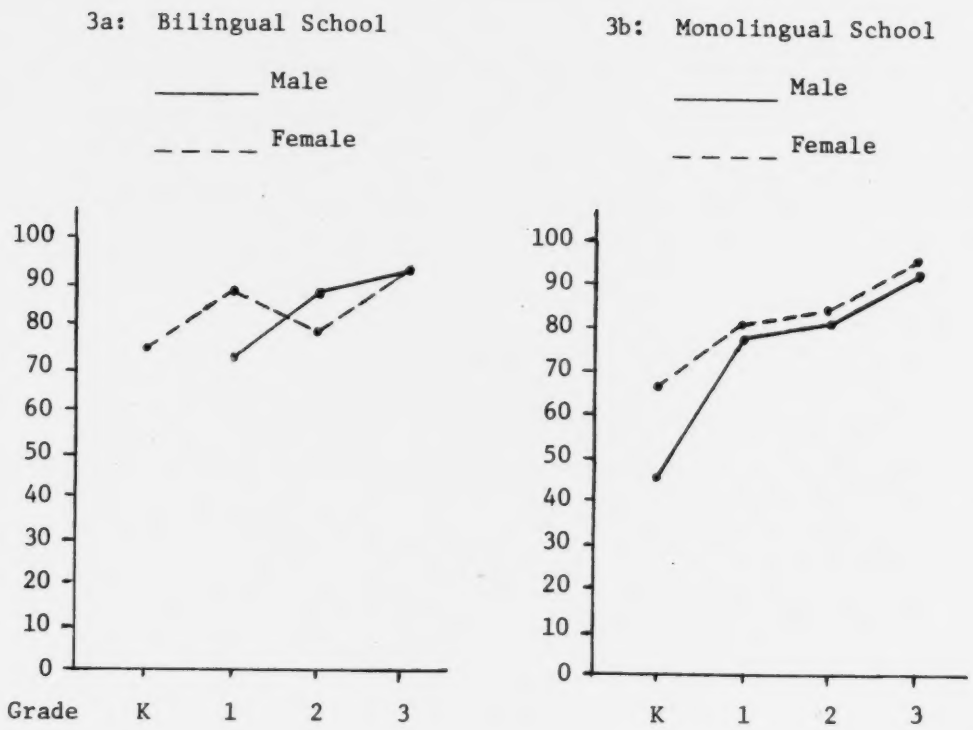
It is also noteworthy that in the first language acquisition of English by monolingual English children, the irregular past tenses like went, broke, came, etc., are generally used correctly in the initial stages of learning, evidently because they are acquired as separate vocabulary items (c.f. Slobin, 1971, p. 49).

Table 3 and Figure 3 show the percentage of correct uses of prepositions before noun phrases. Again, it is quite obvious that with the possible exception of the superior performance of females over males in the early grades, there was no significant difference in overall performance either between males and females or between schools. Certainly for third-grade students the percentages of correct uses either by males and females (92%, 94%) or by children from the bilingual and children from the monolingual school (91%, 95%) do not differ significantly from one another. Again, there are also obvious increases of correct usage from grade to grade.

TABLE 3

Correct and Incorrect Uses of Prepositions

	Bilingual School			Monolingual School		
Grade	Correct	Incorrect	Percent Correct	Correct	Incorrect	Percent Correct
K Male	-	-	-	12	14	46%
Female	6	2	75%	16	8	67%
Total	6	2	75%	28	22	56%
1 Male	21	8	73%	63	17	79%
Female	17	2	89%	18	4	82%
Total	38	10	79%	81	21	79%
2 Male	55	8	87%	45	10	82%
Female	39	10	79%	34	6	85%
Total	94	18	84%	79	16	84%
3 Male	67	7	92%	55	3	94%
Female	36	3	92%	25	1	96%
Total	103	10	91%	80	4	95%



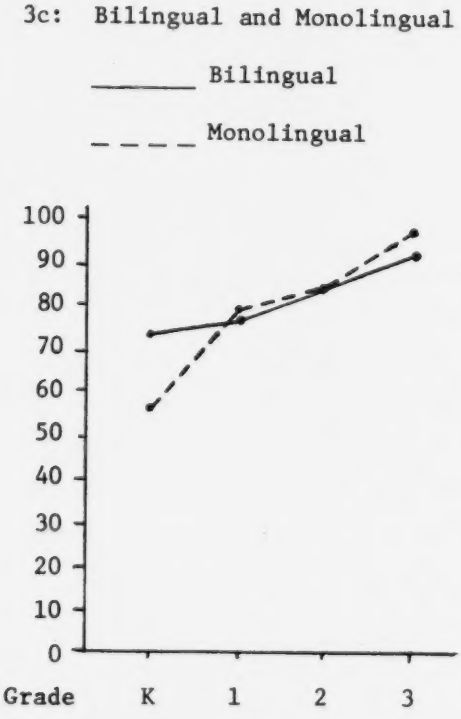


Fig. 3. Percentage of correct uses of prepositions.

A final comparison of frequency of errors was undertaken in terms of number of errors by number of words. The results of this comparison are presented in Table 4 and Figure 4. The main differences between males and females in error rate were the better performance of males (i.e., lower error rate) at the kindergarten level and the worse performance of males (higher error rate) at the first-grade level. That the kindergarten

TABLE 4

Number of Errors per 100 Words, by Type of School and by Sex

Grade		Bilingual School			Monolingual School		
		No. of Errors	No. of Words	Errors/100 Words	No. of Errors	No. of Words	Errors/100 Words
K	Male	5	98	4.7	35	678	5.2
	Female	68	805	8.4	32	565	5.7
	Total	73	903	8.1	67	1243	5.5
1	Male	103	1225	8.4	167	1939	8.6
	Female	37	530	7.0	44	862	5.1
	Total	140	1755	8.0	211	2801	7.5
2	Male	102	1931	5.3	76	1257	6.0
	Female	81	1292	6.2	82	1264	6.5
	Total	183	3223	5.7	158	2521	6.3
3	Male	61	1915	3.2	76	1665	4.6
	Female	68	1072	1.3	18	674	2.7
	Total	129	2987	4.3	94	2339	4.0

Grade	Males			Females		
	No. of Errors	No. of Words	Errors/100 Words	No. of Errors	No. of Words	Errors/100 Words
K	40	776	5.2	100	1370	7.0
1	270	3164	8.5	81	1392	5.8
2	178	3108	5.6	163	2556	6.4
3	137	3580	3.8	86	1746	5.0

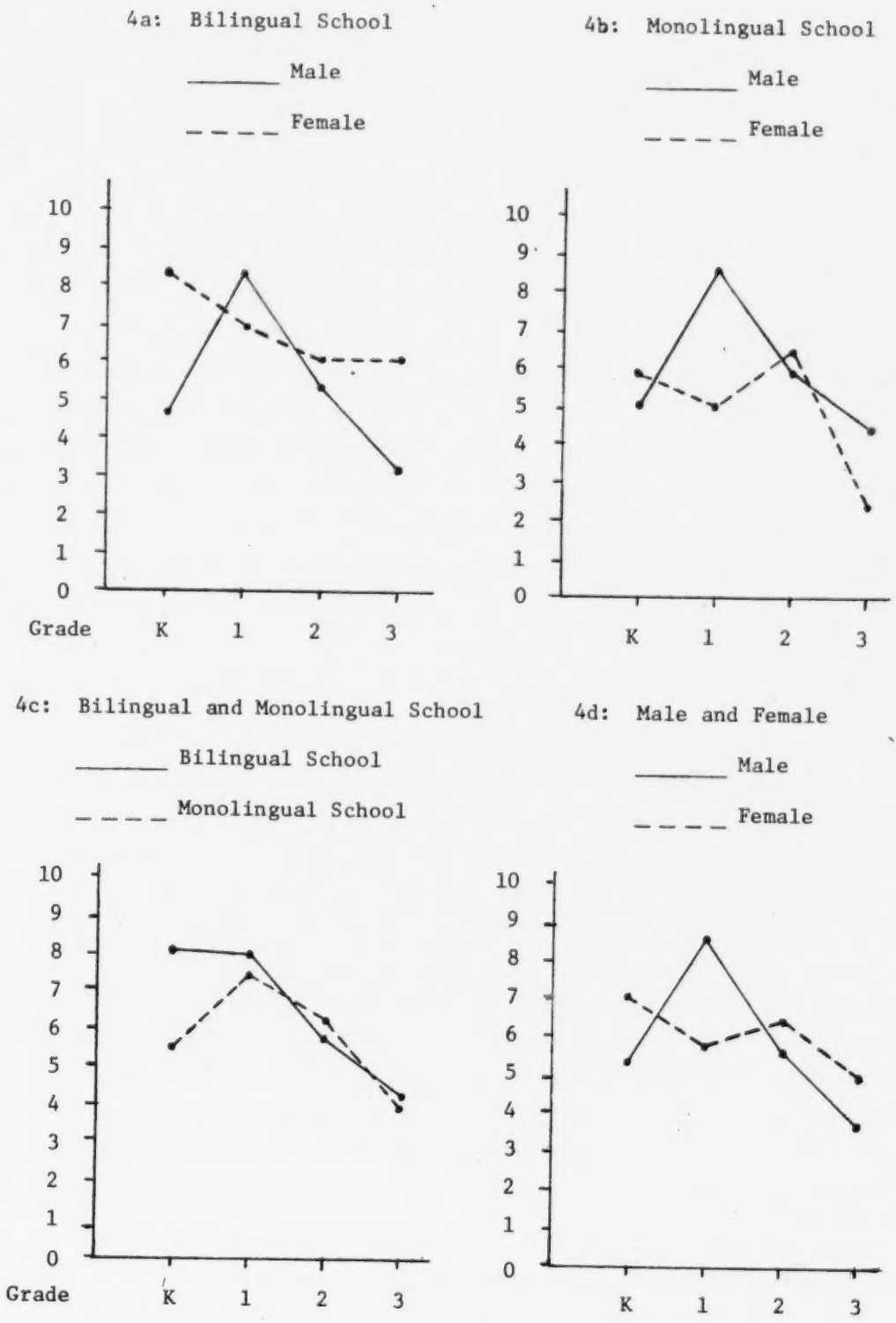


Fig. 4. Number of errors per 100 words.

males performed better than the kindergarten females may be largely due to the fact that they responded in extremely short sentences that often consisted of only a single word: That is, their comparatively low number of errors by number of words seems to be the result of their having used very few words, thus creating fewer opportunities for error.

There is an obvious tendency for the number of errors to diminish from the first to the second to the third year. As far as any differences between the monolingual and the bilingual school are concerned, the monolingual school has an edge over the bilingual in kindergarten and after that the differences diminish. The overall error rates for children in their third year (4.3, 4.00) do not differ significantly. All of the error analyses undertaken thus lead to the same conclusion: The English-language performance of the third-year Mexican-American children who attend the bilingual school was not significantly different from that of the third-year Mexican-American children who attend the monolingual school.

Discussion

Causes of Errors

To pin down the precise cause of an error inevitably involves some guessing about underlying psychological processes, as was pointed out in a recent analysis of errors committed by Spanish speaking children learning English (Dulay & Burt, 1972). For the responses examined in this study, several possible causes of errors must be considered.

1. Interlingual errors: Interference coming from Spanish.

2. Intralingual errors: (a) Confusion arising "within English" as the result of misinterpretations of English grammatical rules.
(b) Developmental errors: i.e., errors arising owing to the fact that children learning English as their second language may go through developmental stages similar to those characteristic for children learning English as their first language.

3. Errors due to the intrusion of nonstandard English dialects.

To make clearcut distinctions between the above categories is not always easy. Categories 2(a) and 2(b) are practically identical, the only

difference being that in category 2(b) the misinterpretation of a grammatical rule is seen as part of a developmental process, whereas in category 2(a) it is seen as a result of ignorance. Even the boundary between category 1 and category 2 is often difficult to draw. Certainly we can attribute an error like he speak for he speaks to the "overextension" of a form within English (e.g., Richards, 1971b) or to the learner's tendency to eliminate redundancy (e.g., George, 1972) within English. We can still wonder whether the error would have occurred if English and the learner's native language were totally isomorphic language systems. Furthermore, we also need to consider the possibility that errors may have multiple causes. In other words, the causes of errors assumed in categories 1, 2, and 3 may all be present simultaneously and may reinforce each other's effects.

The problematic nature of error categorization is illustrated in the following example. In the formation of the negative, an expression like He not catch the bird can be ascribed to Spanish influence; but it also has a striking similarity to the type of negation that appears first in children's speech (see, e.g., McNeill, 1970, pp. 81ff). They won't have no fun looks like a negation common in nonstandard English dialect, but it could also be attributed to the influence of the Spanish negative (e.g., no - ningún; no - jamás). Furthermore, it could be a developmental error: in a language with negative quantifiers like nothing or nobody, the multiple negative can be interpreted as a simplification occurring in a child's language (e.g., Kiparski, 1968). Only in a case like it ain't good is the source of the error perfectly clear. Here we obviously are not dealing with an error at all--if by error we mean failure to observe a systematic rule--but with the "regular" form of a nonstandard English dialect.

It seems safe to say, then, that the intrusion of Spanish, though certainly not the only cause of error, plays a considerable role. Spanish influence seems to be the major cause of error or at least one of the major causes of error, in the following examples: the use of the simple verb form for the past tense of regular verbs (evidently due to phonological misinterpretation of final consonant clusters), nominalization by using the infinitive rather than the gerund, uncertainty in the use of

subject pronouns, the use of redundant object pronouns, the use of the definite article for the possessive, confusion in the use of prepositions (especially in the use of in, on, etc.), uncertainty in the use of to in verb + verb constructions, confusion in word order (object-subject-verb construction). (Vocabulary errors that seem quite obviously caused by Spanish influence have been mentioned before.)

But if many errors can be attributed to Spanish influence, certainly not all of them can. Undoubtedly some are characteristic of the speech of young children in general (see Hatch, 1972). Among such errors are, most likely, the use of a for an, the incorrect irregular past tenses, number confusions, incorrect pronoun agreements, the omission of verbs, and subject-verb disagreements.

In several cases we can only speculate about the possible causes of errors. The absence of the possessive case marker, the absence of the third-person marker, and the omission of forms of to be are all characteristics of Black English. In the responses gathered in this study they appeared frequently enough that they cannot be dismissed as accidental ("performance" errors rather than "competence" errors). At the same time, the Mexican-American children used as subjects in this study had had very little exposure to Black English. Apparently the above-mentioned constructions are the result of general tendencies toward simplification in areas of possible redundancy (see George, 1972).

Other similarities with Black English, like the already mentioned attachment of the past marker to the dependent verb and the use of several negative markers in the same sentence, are probably also accidental. We should also emphasize that within the context of this study such phenomena may be considered errors in the sense that they represent stages in the acquisition of English by bilingual children. They are probably not part of a stable linguistic system used by the community in which the children live.

The Monolingual and the Bilingual School Compared

The main result of our comparison between the monolingual and the bilingual school is negative but nevertheless quite important: the spoken English of Mexican-American children who had spent approximately three

years in a bilingual program was no worse than that of comparable Mexican-American children who had spent about three years in a monolingual program. A separate study (Politzer & Ramirez, forthcoming) has demonstrated that bilingual education and the use of Spanish in school had some positive effects on Mexican-American children's attitude toward Spanish and their Mexican-American background. This study indicates that there is no reason to fear that these positive effects may have been achieved at the expense of the children's progress in learning spoken English.

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APPENDIX A

Schedule of Instructions

(Each interview will be conducted immediately after the child has seen the film.)

1. After a brief conversation to put the child at ease, turn the recorder on.
2. Record the child's code number on the tape, so that his speech sample can be identified.
3. Ask the child to tell in his own words the story of the ant and the dove.
4. When he has finished telling the story, ask the child: "Does the story tell you that if you help someone they will help you?" If his answer is yes, say: "Why do you think so?" If his answer is no, say: "Why don't you think so?"

APPENDIX B

Distribution of Some Frequent Error Types by School and Grade

	Bilingual					Monolingual					Total for both Schools
	K	1	2	3	Total	K	1	2	3	Total	
Omission of subject pronoun in 3d person	12	3	2	6	23	11	4	3	2	20	43
Addition of subject pronoun in 3d person	2	4	4	9	19	-	-	3	2	5	24
Substitution of "a" for "an"	1	1	3	1	6	4	-	1	1	6	12
Omission of article	1	1	3	2	7	4	4	5	4	17	24
Omission of final -s in 3d person	11	6	3	1	21	3	1	1	-	5	26
Omission of "to" before verb	1	1	4	-	6	3	-	-	-	3	9